

TENNESSEE VALLEY AUTHORITY
**RESERVOIR SEDIMENTATION
 DATA SUMMARY**

Fontana
 NAME OF RESERVOIR

HYDRAULIC DATA BRANCH
 20-11b
 DATA SHEET NO.

DAM	1. OWNER TVA			2. RIVER Little Tennessee		3. STATE North Carolina		
	4. SEC. TWP. RANGE		5. NEAREST TOWN Fontana		6. COUNTY Swain-Graham			
	7. STREAM BED ELEV. 1280		8. TOP OF DAM ELEV. 1727		9. SPILLWAY CREST ELEV. 1/1710			
RESERVOIR	10. STORAGE ALLOCATION	11. ELEVATION TOP OF POOL	12. SURFACE AREA ACRES	13. STORAGE ACRE- FEET	14. ACCUMULATED ACRE- FEET	15. DATE STORAGE BEGAN		
	a. FLOOD CONTROL					11/7/44		
	b. POWER							
	c. MULTIPLE USE	1,710	2/10,718	2/1,447,582	2/1,455,062	16. DATE NORMAL OPER. BEGAN		
	d. INACTIVE	1,337	2/ 310	2/ 7,480	2/ 7,480	1/20/45		
WATERSHED	17. LENGTH OF RESERVOIR 29 MILES			AV. WIDTH OF RESERVOIR 0.58 MILES				
	18. TOTAL DRAINAGE AREA 1571 SQ. MI.			22. MEAN ANNUAL PRECIPITATION 59.7(24) INCHES				
	19. NET SEDIMENT CONTRIBUTING AREA 1426 SQ. MI.			23. MEAN ANNUAL RUNOFF 32.0(31) INCHES				
	20. LENGTH 84 MILES	AV. WIDTH 19 MILES		24. MEAN ANNUAL RUNOFF 2,679,000 AC.-FT.				
21. MAX. ELEV. 6642		MIN. ELEV. 1280		25. CLIMATIC CLASSIFICATION Per humid				
SURVEY DATA	26. DATE OF SURVEY	27. PERIOD YEARS	28. ACCL. YEARS	29. TYPE OF SURVEY	30. NO. OF RANGES OR CONTOUR INT.	31. SURFACE AREA ACRES	32. CAPACITY ACRE- FEET	33. C/W RATIO AC.-FT. PER SQ. MI.
	Nov. 7, 1944	0	0	Range	59	10,718	1,455,062	
	Mar. 17, 1950	5.4	5.4	Range	50	10,718	1,452,385	
	Sep. 28, 1954	4.5	9.9	Range	42	10,718	1,450,646	
	Jun. 22, 1959	4.7	14.6	Range	50	10,718	1,448,311	
	(D)							
	26. DATE OF SURVEY	34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE- FEET			36. WATER INFL. TO DATE AC.-FT.	
				a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE
	Mar. 17, 1950	65.7		3,000,312	3,941,532	16,201,683	3,000,312	16,201,683
	Sep. 28, 1954	56.3		2,443,859	2,749,202	10,997,365	2,747,379	27,199,048
	Jun. 22, 1959	61.5		2,682,230	3,148,925	12,606,479	2,726,406	39,805,527
	26. DATE OF SURVEY	37. PERIOD SEDIMENT DEPOSITS ACRE- FEET			38. TOTAL SED. DEPOSITS TO DATE ACRE- FEET.			
		a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	
Mar. 17, 1950	2,677	496	0.348	2,677	496	0.348		
Sep. 28, 1954	1,739	386	0.271	4,416	446	0.313		
Jun. 22, 1959	2,335	497	0.349	6,751	462	0.324		
26. DATE OF SURVEY	39. AV. DRY WGT. LBS. PER CU. FT.	40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM		
		a. PERIOD	b. TOTAL TO DATE	a. AV. ANNUAL	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE	
Mar. 17, 1950	55*	416.9	416.9	0.034	0.184	146	146	
Sep. 28, 1954	55*	324.6	374.9	0.031	0.303	139	143	
Jun. 22, 1959	55*	418.1	388.1	0.032	0.464	163	149	

1/ Top of gates.
 2/ Revised.
 * Assumed.

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET ABOVE, AND BELOW, CREST ELEVATION										
	419-360	360-320	320-280	280-240	240-200	200-160	160-120	120-80	80-40	40-Top of Gates	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
Mar. 17, 1950	0	14	9	7	10	16	22	21	1	0	
Sep. 28, 1954	6	6	7	12	10	35	19	5	0	0	
Jun. 22, 1959	4	6	8	17	21	24	10	7	3	0	

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR														
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
Mar. 17, 1950	3	7	9	10	11	3/32	2	14	4/10	2					
Sep. 28, 1954	5	6	4	7	7	3/45	9	15	4/2	0					
Jun. 22, 1959	4	5	4	8	10	3/46	11	8	4/3	1					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1946	1708.05	1614.00	3,283,958	1953	1660.08	1552.39	2,177,905
1947	1664.47	1572.59	2,318,491	1954	1650.94	1541.12	2,262,870
1948	1676.74	1549.42	2,528,044	1955	1649.77	5/1472.0	2,298,305
1949	1708.91	1612.77	3,941,532	1956	1691.76	5/1487.6	2,333,909
1950	1698.18	1614.74	3,466,821	1957	1679.87	1561.99	3,020,587
1951	1690.28	1583.48	2,417,274	1958	1695.17	1576.66	3,148,925
1952	1680.87	1585.64	2,749,202	1959	1686.67	1527.71	2,280,438

46. ELEVATION-AREA-CAPACITY DATA 2/ (1944)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1291	0	0	1450	1,820	119,814	1610	5,646	658,616
1310	138	1,270	1470	2,151	159,315	1630	6,488	779,728
1330	269	5,405	1490	2,482	205,630	1650	7,389	918,461
1350	423	12,117	1510	2,817	258,649	1670	8,379	1,075,970
1370	660	22,635	1530	3,188	318,470	1690	9,435	1,253,969
1390	923	38,431	1550	3,629	386,334	1710	10,718	1,455,062
1410	1,214	59,778	1570	4,175	464,195			
1430	1,478	86,724	1590	4,829	553,937			

47. REMARKS AND REFERENCES
 3/ Includes Tuckasegee River tributary.
 4/ Includes Nantahala River tributary.
 5/ Estimated.

48. AGENCY SUPPLYING DATA
 TENNESSEE VALLEY AUTHORITY
 HYDRAULIC DATA BRANCH

49. DATE September 1, 1963

RESERVOIR SEDIMENT
DATA SUMMARY

Fontana
NAME OF RESERVOIR

20-11C
DATA SHEET NO.

DAM	1. OWNER TVA			2. STREAM Little Tennessee			3. STATE North Carolina					
	4. SEC. TWP. RANGE			5. NEAREST POST/OFF. Fontana			6. COUNTY Swain-Graham					
	7. LAT. 35° 27' 06" LONG. 83° 48' 16"			8. TOP OF DAM ELEVATION 1727			9. SPILLWAY CREST ELEV. 1/ 1710					
RESERVOIR	10. STORAGE ALLOCATION		11. ELEVATION TOP OF POOL		12. ORIGINAL SURFACE AREA ACRES		13. ORIGINAL CAPACITY ACRE-Feet		14. GROSS STORAGE ACRE-Feet		15. DATE STORAGE BEGAN	
	a. FLOOD CONTROL				3/		3/		3/		11/7/44	
	b. MULTIPLE USE		2/ 1,710		10,718		1,447,582		1,455,062			
	c. POWER										16. DATE NORMAL OPER. BEGAN	
	d. WATER SUPPLY											
	e. IRRIGATION											
	f. CONSERVATION										1/20/45	
	g. INACTIVE		1,337		310		7,480		7,480			
17. LENGTH OF RESERVOIR 29 MILES				AV. WIDTH OF RESERVOIR 0.58 MILES								
WATERSHED	18. TOTAL DRAINAGE AREA 1571 SQ. MI.				22. MEAN ANNUAL PRECIPITATION 60.7 (31) INCHES							
	19. NET SEDIMENT CONTRIBUTING AREA 1426 SQ. MI.				23. MEAN ANNUAL RUNOFF 32.44 (39) INCHES							
	20. LENGTH 84 MILES		AV. WIDTH 19 MILES		24. MEAN ANNUAL RUNOFF 2,717,870 AC.-FT.							
	21. MAX. ELEV. 6642		MIN. ELEV. 1280		25. ANNUAL TEMP. MEAN 58 RANGE							
	26. DATE OF SURVEY		27. PERIOD, YEARS	28. ACCL. YEARS	29. TYPE OF SURVEY	30. NO. OF RANGES OR CONTOUR INT.	31. SURFACE AREA ACRES	32. CAPACITY ACRE-Feet	33. C/I. RATIO AC.-FT. PER AC.-FT.			
Nov. 7, 1944		0	0	Range	59	10,718	1,455,062	0.543				
Oct. 5, 1967		8.3	22.9	Range	54	10,718	1,443,262	0.531				
26. DATE OF SURVEY		34. PERIOD ANNUAL PRECIPITATION		35. PERIOD WATER INFLOW ACRE-Feet			36. WATER INFL. TO DATE AC.-FT.					
				a. MEAN ANNUAL	b. MAX. ANNUAL	c. PERIOD TOTAL	a. MEAN ANNUAL	b. TOTAL TO DATE				
Oct. 5, 1967		63.0		2,847,469	3,366,575	23,633,992	2,770,285	63,439,519				
26. DATE OF SURVEY		37. PERIOD CAPACITY LOSS ACRE-Feet			38. TOTAL SED. DEPOSITS TO DATE ACRE-Feet							
		a. PERIOD TOTAL	b. AV. ANNUAL	c. PER SQ. MI.-YEAR	a. TOTAL TO DATE	b. AV. ANNUAL	c. PER SQ. MI.-YEAR					
Oct. 5, 1967		5,049	608	0.426	11,800	515	0.361					
26. DATE OF SURVEY		39. AV. DRY WGT. LBS. PER CU. FT.	40. SED. DEP. TONS PER SQ. MI.-YR.		41. STORAGE LOSS PCT.		42. SED. INFLOW PPM					
			a. TOTAL TO DATE	b. PERIOD	a. AV. AN.	b. TOT. TO DATE	a. PERIOD	b. TOT. TO DATE				
Oct. 5, 1967		55*	511	432	0.035	0.811	188	164				

*Assumed

26. DATE OF SURVEY	43. DEPTH DESIGNATION RANGE IN FEET BELOW, AND ABOVE, CREST ELEVATION										
	49-360	360-320	320-280	280-240	240-200	200-160	160-120	120-80	80-40	40-Top of Gates	
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN DEPTH DESIGNATION										
Oct. 5, 1967	4	7	5	11	17	31	13	7	5	0	

26. DATE OF SURVEY	44. REACH DESIGNATION PERCENT OF TOTAL ORIGINAL LENGTH OF RESERVOIR														
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	-105	-110	-115	-120	-125
	PERCENT OF TOTAL SEDIMENT LOCATED WITHIN REACH DESIGNATION														
Oct. 5, 1967	7	7	6	5	9	5/ 43	12	7	5/ 4	0					

45. RANGE IN RESERVOIR OPERATION							
WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.	WATER YEAR	MAX. ELEV.	MIN. ELEV.	INFLOW AC.-FT.
1960	1691.38	1598.12	2,919,686				
1961	1689.94	1565.92	2,621,423				
1962	1692.59	1582.24	3,366,575				
1963	1676.88	1564.80	2,463,459				
1964	1707.84	1564.56	3,031,611				
1965	1701.74	1612.66	3,126,670				
1966	1678.02	1534.10	2,352,727				
1967	1707.69	1606.16	3,238,447				

46. ELEVATION-AREA-CAPACITY DATA (1967)								
ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY	ELEVATION	AREA	CAPACITY
1291	0	0	1450	1,820	117,255	1610	5,646	647,627
1310	138	1,238	1470	2,151	156,155	1630	6,488	768,480
1330	269	5,134	1490	2,482	201,127	1650	7,389	906,827
1350	423	11,684	1510	2,817	253,454	1670	8,379	1,064,162
1370	660	21,611	1530	3,188	311,447	1690	9,435	1,242,168
1390	923	37,186	1550	3,629	377,446	1710	10,718	1,443,262
1410	1,214	58,052	1570	4,175	454,544			
1430	1,478	84,839	1590	4,829	543,552			

47. REMARKS AND REFERENCES

1/ Top of gates

2/ Power and Flood Control. Normal maximum pool level EL. 1710. Normal minimum pool level EL. 1525.

3/ Revised

4/ Includes Tuckasegee River Tributary

5/ Includes Nantahala River Tributary